

Title

Decorative Alert System

Background of the Present Invention

Field of Invention

5 The present invention relates to alert system, and more particularly to a decorative alert system adapted for illuminating sparkling lights when a centrifugal force is applied on the decorative alert system in order to provide an alert signal and an ornamental effect as well.

Description of Related Arts

10 Since bicycle, motorcycle, and automobile are the major ground transportations that most people drive everyday, the safety of driving is mostly concerned by the drivers. So, most drivers like to install some illuminating device for not only decorating their vehicles but also providing an alert signal to other drivers. For example, bikers may install a decorative reflector on the wheels of their bicycles in such a manner the light
15 from other vehicles such as the head light in the surrounding will reflect on the reflector in order to signify the motion of the bicycle for providing an alert signal to other drivers. However, the light reflected from the reflector has a short wavelength, especially during dusk that the light becomes dull, the reflected light is not bright enough for indicating the alert signal, so as the bad ornamental effect.

20 Other improved illuminating device, such as a globe illuminator which can be automatically illuminated at dark, is commonly used on the wheels of the bicycle such that when riding the bicycle, the lightened globe illuminator will provide an alert signal to other drivers at the surrounding. However, after a period of time, the globe illuminator may merely diminish its light intensity, so as to decrease the efficiency of the alert signal.
25 So, the driver must buy a new globe illuminator to replace the old one in order to accomplish the alerting purpose. Thus, the globe illuminator can hardly provide an

ornamental effect for the vehicle since the globe illuminator is being lightened at all time instead of having a sparkling light which can put ornaments on the vehicle.

Summary of the Present Invention

5 A main object of the present invention is to provide a decorative alert system which comprises an alerting circuit arrangement disposed in a casing wherein the circuit arrangement, comprises a central process circuit and a sparkling control circuit, is electrically connected with a centrifugal sensor for controlling the alerting circuit arrangement by switching on and off of a power source. When a centrifugal force is
10 applied on the alerting circuit arrangement, the alerting circuit arrangement is electrically connected with the power source, so as to electrically connect with the central process circuit and the sparkling control circuit. So, a plurality of illuminators controlled by the sparkling control circuit are lightened up for illuminating sparkling lights to signify as an alert signal. Thus, the power source of the alerting circuit arrangement is serially
15 connected with a photo cell unit for switching the alerting circuit arrangement on and off respective to the environmental brightness wherein when the surrounding turns dark, the photo cell unit detects the reducing of brightness and switches on the alerting circuit arrangement in order to generate the sparkling lights. So, the decorative alert system of the present invention is capable of installing into an existing vehicle wherein the casing is
20 adapted for mounting on the spoke of the wheel of the vehicle in such a manner the sparkling lights on the rotating wheel of the vehicle provide an alert signal to the surrounding and put ornamental effect on the vehicle.

Brief Description of the Drawings

Fig. 1 is a circuit diagram of a decorative alert system according to a first preferred embodiment of the present invention.

5 Fig. 2 is a block diagram of a central process circuit of the decorative alert system according to the above first preferred embodiment of the present invention.

Fig. 3 is block diagram of a sparkling control circuit of the decorative alert system according to the above first preferred embodiment of the present invention.

Fig. 4 is an electric diagram of a sparkling period of the decorative alert system according to the above first preferred embodiment of the present invention.

10 Fig. 5 is a perspective view of a centrifugal sensor of the decorative alert system according to the above first preferred embodiment of the present invention.

Fig. 6 is an exploded perspective view of the decorative alert system according to the above first preferred embodiment of the present invention, illustrating the decorative alert system adapted to be installed on a bicycle.

15 Fig. 7 is a perspective view of the decorative alert system installed into an existing bicycle according to the above first preferred embodiment of the present invention.

Fig. 8 is an exploded perspective view of the decorative alert system according to a second preferred embodiment of the present invention, illustrating the decorative alert system adapted to be installed on a motorcycle.

20 Fig. 9 is a perspective view of the decorative alert system installed into an existing motorcycle according to the above second preferred embodiment of the present invention.

Detailed Description of the Preferred Embodiment

Referring to Figs. 1 to 7 of the drawings, a decorative alert system according to a first preferred embodiment of the present invention is illustrated. The decorative alert system comprises an alerting circuit arrangement 1 disposed in a casing 2, wherein the alerting circuit arrangement 1 comprises a central process circuit 11 and a sparkling control circuit 12. The alerting circuit arrangement 1 is electrically connected with a centrifugal sensor 13 for controlling the alerting circuit arrangement 1 by switching on and off of a power source 14. When a centrifugal force is applied on the alerting circuit arrangement 1, the alerting circuit arrangement 1 is electrically connected with the power source 14, so as to electrically connect with the central process circuit 11 and the sparkling control circuit 12. So, a plurality of illuminators L1, L2, L3, L4, and L5 controlled by the sparkling control circuit 12 are lightened up for illuminating sparkling lights to signify as an alert signal as well as for decoration. Thus, the power source 14 of the alerting circuit arrangement 1 is serially connected with a photo cell unit CDS for switching the alerting circuit arrangement 1 on and off respective to the environmental brightness wherein when the surrounding turns dark, the photo cell unit CDS detects the reducing of brightness and switches on the alerting circuit arrangement 1 in order to generate the sparkling lights for signifying as an alert signal as well as for decoration. Accordingly, the decorative alert system 1 of the present invention is capable of installing into an existing vehicle such as bicycle or motorcycle wherein the casing 2 is adapted for mounting on the spoke 31 of the wheel 3 of the bicycle or a valve 41 of a tire 4 of the motorcycle, as shown in Figs. 8 and 9, in such a manner the sparkling lights on the rotating wheel of the vehicle provide an alert signal to the surrounding and put ornamental effect on the vehicle.

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Referring to Figs. 1, 2, and 3 of the drawings, the central process circuit 11 comprises a logic controller 111, a vibrator 112, and a calculator 113 wherein the logic controller 111, the vibrator 112, and the calculator 113 are electrically connected together as a serial connection. When the logic controller 111 receives a high position signal LED, the logic controller 111 will drive an illuminating signal generator 114 and a frequency generator 115 for respectively outputting signals to the sparkling control circuit 12. Then, the sparkling control circuit 12 is received the signal from the illuminating signal generator 114 or the signal from the frequency generator 115, the illuminators L1 to L5 will illuminate sparkling light to provide the alert signal and the

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ornamental effect or the frequency generator 115 will generate a "woo" sound respectively.

As shown in Fig. 4, the alerting circuit arrangement 1 is capable of randomly driving specific illuminators, for example L1, L2, L3, to illuminate the sparkling lights when the alerting circuit arrangement 1 is received the high position signal LEH at the first time. At the second time when the alerting circuit arrangement 1 is received the high position signal LEH, the alerting circuit arrangement 1 may drive all the illuminator L1 to L5 to illuminate the sparkling lights. In other words, various colors can be illuminated by the illuminators L1 to L5 and the pattern of sparkling lights is randomly selected from the alerting circuit arrangement 1 for providing the alert signal and the ornamental effect. Accordingly, the illuminators L1 to L5, preferably, are LEDs or other illuminating device.

As shown in Fig. 5, the centrifugal sensor 13 comprises a conductive plate 131 and a resilient element 132 having a connector 132a mounted at a top end thereof, wherein the power source 14 is electrically connected to the conductive plate 131 and the resilient element 132 respectively in such an open circuit manner the connector 132a is normally disengage with the conductive plate 131. When the centrifugal sensor 13 detects a centrifugal force applied thereon, the centrifugal force will drive the connector 132a of the resilient 132 move toward the conductive plate 131 to connect therewith in such a manner the centrifugal sensor 13 is in a closed circuit manner for switching on the alerting circuit arrangement 1.

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Referring to Figs. 6 and 7, the casing 2 adapted for mounting on a bicycle comprises a housing 21 having a transparent window 211 provided on an outer surface thereof wherein the alerting circuit arrangement 1 is disposed in the housing 21 such that the sparkling lights generated by the illuminators L1 to L2 adapted to pass through the transparent window 211 to outside, a pair of holding planes 22 extended from two sides of the housing 21 respectively wherein a mounting groove 221 is formed on each holding plane 22, and a pair of mounting planes 23 detachably mounted on the respective holding planes 22 for locking up the casing 2 on the spoke 31 of the wheel 3 of the bicycle. In other words, the casing 2 is adapted to mount on the spoke 31 of the wheel 3 of the bicycle wherein the spoke 31 is disposed in the mounting groove 22 and securely sandwiched between the holding plane 22 and the mounting plane 23 in such a manner

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the wheel 3 of the bicycle is arranged to drive the casing 2 to rotate to illuminate sparkling lights.

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5 As shown in Figs. 8 and 9, the decorative alert system according to a second preferred embodiment of the present invention is illustrated, wherein the decorative alert system is capable of installing on the motorcycle. The casing 2a merely comprises a housing 21a having a transparent window 211a provided on an outer surface thereof wherein the alerting circuit arrangement 1 is disposed in the housing 21a such that the sparkling lights generated by the illuminators L1 to L2 adapted to pass through the transparent window 211a to outside, and a mounting cap 24 having an inner threaded
10 portion mounted on a bottom of the housing 21a for screwing with an outer threaded portion 411 of the valve 41 of the tire 4 of the motorcycle, so as to securely mount the casing 2a on the motorcycle and drive the alerting circuit arrangement 1 to rotate to illuminate sparkling lights.

15 Accordingly, the alerting circuit arrangement 1 can be automatically switched on and off by the centrifugal sensor 13 or the photo cell unit CDS in such a manner the present invention does not need to switch on manually. When riding a bicycle or driving a motorcycle or a vehicle at a dull place or at night, the alerting circuit arrangement 1 will be automatically switched on wherein the illuminators L1 to L5 will continuously generate sparkling lights for signifying an alert signal to other people at the surrounding.
20 So, the present invention is a safety apparatus for driving especially at night and the installation is simple and easy so that the user is able to install the decorative alert system by himself or herself.

25 While the foregoing description and diagram describe the preferred embodiments of the present invention, it should be appreciated that certain obvious modifications, variations, and substitutions may be made without departing from the spirit and scope of the present invention.